

REMARKS

Claims 1, 4, 6-9, 14-17, 22-25, and 30-45, are pending in this application, all of which have been rejected. It is respectfully submitted that the present amendment will put the pending claims into condition for allowance. Entry of the amendment is respectfully requested.

The Objection to the Specification

The specification is objected to for allegedly introducing new matter into the disclosure. Specifically, the formula 1 had been changed such that the end portion of the molecule -G-(SiX<sub>3</sub>)<sub>3</sub> was changed to -G-(SiX<sub>3</sub>)<sub>s</sub>. Applicants respectfully submit that no new matter was added and the amendment was made to correct a clerical error which would have been realized by one skilled in the art.

The Office Action states that there is no support for s = 1 or 2. This is not correct. At line 2, page 27 of the specification as originally filed the value of s in Formula 1 is given as "s is 1 to 3". However, because of a typographical error, there is no "s" subscript in Formula 1. The final -G-(SiX<sub>3</sub>)<sub>s</sub> was typed as -G-(SiX<sub>3</sub>)<sub>3</sub>. One skilled in the art would realize that the final subscript "3" should have been "s" because the same formula 1 is disclosed in WO 99/09036 ("Cruse et al.") at page 3 wherein the final portion of the molecule is -G-(SiX<sub>3</sub>)<sub>s</sub> and the value of "s" is given at page 4 as "s is 1 to 3". One skilled in the art would clearly realize that the final subscript "3" of Formula 1 should be "s". Furthermore, pages 30 and 31 of the specification are replete with examples of compounds having Formula 1 wherein s = 1 or 2, such as 3-

triethoxysilyl-1-propyl thioctoate (page 30, line 21) and bis-(3-triethoxysilyl-1-propyl) methyldithiophosphonate (page 31, line 2). Accordingly, it is respectfully submitted that no new matter is added. Reconsideration and withdrawal of the objection to the specification are respectfully requested.

The Rejection of the Claims Under 35 U.S.C. §112

1. Claims 1, 3 and 42 are rejected under 35 U.S.C. §112, first paragraph for the reasons stated at page 3 of the Office Action. Claims 1 and 42 are amended herein to recite that the total amount of silica is above 100 phr. The phrases "from 1 to 100 phr" and "wherein the total amount of the member including any organic filler is above 100 phr and up to about 160 phr" have been deleted.

Claim 3 is alleged to contain new matter for the reasons stated above with respect to the specification. Specifically, the Examiner asserts that there is not support for changing  $-G-(SiX_3)_3$  to  $-G-(SiX_3)_s$ . For the reasons stated hereinabove in response to the objection to the specification, Applicants submit that no new matter has been added and that there is support for the amendment. Also, Claim 3 is alleged to contain new matter for failing to recite that each R contains from 1 to 18 carbon atoms. Claim 3 has been canceled, its recitations being incorporated into Claim 1. However, the limitation that each R contains 1 to 18 carbon atoms is included in Claim 1.

Reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph are respectfully requested.

2. Claims 1-4, -9, 14-17, 22-25 and 30-41 are rejected under 35 U.S.C. §112, second paragraph for the reasons set forth at pages 4 and 5 of the Office Action.

It is respectfully submitted that Claims 1 and 42 as amended herein overcome this rejection.

Claim 3 is canceled.

Claim 39 is amended herein to change "resin" to "at least one member".

It is respectfully submitted that this rejection has been overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

The Rejections Under Prior Art

1. Claims 1, 7, 8, 17 23, 24, 33 and 42 are rejected under 35 U.S.C. §102(b) as being anticipated by Homada, U.S. Patent No. 5,409,969.

Independent claims 1 and 42 are amended to incorporate the features of Claims 2 and 3, which were not covered by this rejection. Accordingly, it is submitted that this rejection has been overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

2. Claims 1-4, 6-9, 14-17 22-24 33-35, 37 and 39-43 are rejected under 35 U.S.C. §103(a) as being obvious over Cruse et al. (WO 99/09036) in view of Patitsas et al. (WO 99/22951).

Cruse et al. discloses blocked mercapto silanes of the formula claimed herein and fillers such as silica and carbon black. Cruse et al. does not disclose silica/rubber mixtures wherein the silica content is above 100 phr., or with MQ resins, thermoplastic resin, or thermosetting resin. Carbon black has been canceled from Claims 1 and 42.

Cruse et al. fails to realize that blocked mercaptosilane coupling agents cause a decrease in hardness of the resulting silica/rubber mixtures. Therefore, Cruse et al. provides no motivation to offset the effect of the blocked mercaptosilane by adding an excess amount of hardness-increasing fillers. For example, Cruse et al. discloses a silica content of up to an upper limit of 100 phr., but provides no suggestion for blending more than 100 phr. The realization of the hardness decreasing effect of the blocked mercaptosilanes by modification of filler-filler interactions and the motivation to offset the decrease in hardness by increasing the silica loading is provided in Applicant's specification at page 13, line 19 to page 14, line 10.

Improvement of hardness by addition of inorganic and organic oligomeric and polymeric materials is discussed in the specification at page 14, lines 11 to 18.

There is no motivation for combining the teachings of Patitsas et al. with Cruse et al., and even if such a combination were to be made, Applicants' claimed invention would neither be disclosed nor suggested.

Patitsas et al. does not address the same problem as Cruse et al. The problem which Patitsas et al. deals with is the hysteresis caused by high levels of carbon black, which increases the rolling resistance of a tire (Patitsas et al., page 1, lines 8-10). The portion of the tire to which Patitsas is directed is the *crown* portion of the tire (belts 36, gum strips 39, and overlay ply 42). Patitsas et al. is *not* directed to the tread portion of the tire 44.

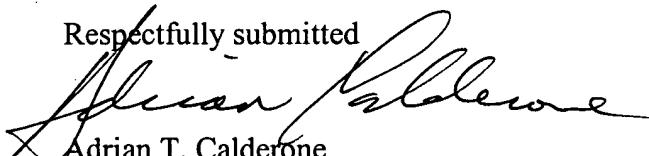
Cruse et al., on the other hand, is directed to the tread portion of the tire. (Cruse et al., page 26, line 24 - page 27, lines 1-3). Treads require high abrasion resistance (hardness). One skilled in the art would recognize that different portions of the tire are subjected to different forces and have different mechanical requirements. Hence, the rubber formulation best suited for the crown portions of the tire are not necessarily the best suited for the treads. Moreover, Patitsas et al. makes no mention of silane coupling agents. Indeed, since the Patitsas et al. formulations do not employ silica, there is no motivation to use silane coupling agents. But, as noted in Applicants' specification, silane coupling agents cause a decrease in the hardness of rubber compounds, which is especially undesirable for tire treads. As mentioned above, Cruse et al. does not recognize this problem. Therefore, one skilled in the art would find no motivation in either of the cited references to combine the teachings of Patitsas et al. with those of Cruse et al.

Nevertheless, even should the combination be made, Patitsas et al. does not cure the deficiencies of the Cruse et al. reference with respect to the present claims as amended. As noted above, Cruse et al. does not disclose the hardness increasing members now recited in Claim 1, and neither does Patitsas et al. Patitsas et al. teaches the replacement of a portion of the amount

of carbon black filler with thermoplastic resins such as polyamides and polypropylene. Patitsas et al. does not mention or suggest silica, MQ resins, thermoset resins, or the polyethylene resins recited in Applicants' claims. Accordingly, independent claims 1, 25, 42, 44 and all claims depending therefrom, are submitted to be allowable. Reconsideration and withdrawal of the rejection are respectfully requested.

#### CONCLUSION

For at least the reasons stated above all of the pending claims are submitted to be in condition for allowance, the same being respectfully requested.

Respectfully submitted  
  
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